Glass Nanospheres Used for Photo-Magnetic Propulsion May Form Basis of More Efficient Solar Panels

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Introduction

Many innovative approaches to create new photovoltaics have been proposed and demonstrated in the past ten years, ranging from perovskites which, although highly efficient, are not durable. Bio-chemical approaches that mimic photosynthesis are promising but likely going to experience the same durability problems. Lifetime system cost versus longevity needs to be taken into account as well as converting efficiency.

Abstract

When a photon strikes a solar panel, there is about a two out of three chance that the voltage carried by the light will not be captured. It can be deflected away due to interaction with other photons or with magnetism. A recent study pointed to the prevention of the formation of spin triplets as a means of increasing converting efficiency.

Solar panels, to be practical, need to be able to convert closer to 80% of energy received into usable electricity instead of 30% and need to have lifespans of 30 years instead of 10.

Fundamentally, I believe that this barrier of about 1/3rd efficiency is proving difficult to overcome because of a feedback effect that consists of omnidirectional emission of magnetism at the point of conversion which inhibits further conversion. If we could observe this process in extreme slow-motion, we would see that the initial wave of photons striking a photovoltaic converter are initially absorbed at 100% efficiency and that it's only about 50 femtoseconds into the process that the efficiency begins to drop toward the familiar 32%.

I therefore propose an entirely different approach that concedes as inevitable the presence of magnetism in this conversion process and moves that conversion process away from silicon-based converters to piezoelectric-based converters. Furthermore, my new process has as its first step the conversion of light into pure magnetism as nano-soliton waves which, in the aggregate, exert physical, kinetic force against a plate within the new type of panel.

This is achieved using glass nanospheres and a metamaterial layer such as eENZ to uniform the polarity of the light prior to its striking the spheres, something I explained in September when describing photo-magnetic propulsion. In this way, we are deliberately converting the light into a unidirectional magneto-kinetic force that may act on any paramagnetic element (ideal since these will react to magnetism without becoming magnetized.) Unidirectionality is key since, remember, the reason traditional silicon photovoltaics are inefficient is because of unpredictable

omnidirectional magnetic interference.

In my system, given that the force is moving in a single direction, there is very little inefficiency. Another key difference here is in the mode of conversion. Once light can be efficiently converted into a kinetic force, that same technology that I believe will prove so useful for flying personal vehicles, military aircraft and spacecraft, can be easily-enough adapted to generating piezoelectric effects between two metal plates.

The only precaution that would need to be taken here is that since substantial kinetic force would be involved, the panels would need to be firmly secured to the Earth as the force would be roughly equivalent to a person leaning against the unit with the full weight of their body 12 hours per day. Crucially, the converting efficiency in this system would be in the vicinity of 80% and the durability would be closer to the 30-year threshold. What's more, the cost of manufacture would be less than that of the current design, making this approach ideal.

Conclusion

Despite momentous advances of my own genesis in the fields of electrical generation through odderonic fusion, electrical transmission through helical current systems, and electrical storage through Coulomb-Suspended cubic proton grids, improved solar panels may continue to have some niche value in remote and impoverished parts of the world well into the 21st century.

Note: This publication is outmoded by the publication of 7 November 2023 in which an ideal photovoltaic is described.